

For the operator

Operating instructions



uniSTOR

domestic hot water cylinder

GB, IE

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1 Notes on the documentation

The following instructions are intended to guide you through the entire documentation. Further documents apply in combination with these operating instructions.

We do not accept liability for any claims or damages resulting from failure to observe these instructions.

1.1 Other applicable documents

- When operating the cylinder, observe all of the operating instructions delivered with other system components. These operating instructions are included with the individual components of the system.

1.2 Storing documents

- Store these operating instructions and all other applicable documents in such a way that they are available whenever required.

1.3 Symbols used

The symbols used in the text are explained below.



Symbol that denotes useful tips and information

- Symbol for a required action

1.4 Applicability of the instructions

These instructions apply for the following only:

Unit type	Cylinder volume	Article number
VIH GB 120/2 S	120 litres	0020115403
VIH GB 155/2 S	155 litres	0020115406
VIH GB 180/2 S	180 litres	0020115409
VIH GB 210/2 S	210 litres	0020115412
VIH GB 260/2 S	260 litres	0020115415
VIH GB 310/2 S	310 litres	0020115418

Table 1.1 Applicability of the instructions

- The article number of the unit is displayed on the identification plate.

1.5 Cylinder identification plate

The identification plate is attached to the front of the cylinder at the factory.

1.6 CE label

CE labelling shows that, based on the type overview, the units comply with the basic requirements of the applicable directives.

- Low voltage directive (Council Directive 2006/95/EC)
- Electromagnetic compatibility directive (Council Directive 2004/108/EC)

1.7 Benchmark



Vaillant Ltd. supports the Benchmark Initiative. You will find the Benchmark Logbook on the last page of this instruction manual. It is very important that this document be filled out properly when installing, commissioning and handing-over to the operator of the installation. Installers should point out also the service record section for completion following service calls to this appliance. Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons approved at the time by the Health and Safety Executive and that it meets the requirements of the appropriate Building Regulations.

The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hot water Industry Council who manage and promote the Scheme.

Visit "www.centralheating.co.uk" for more information.







2 Safety instructions

2.1 Safety and warning information

When operating the system, observe the basic safety instructions and the warning notes which appear before each of the actions.


2.1.1 Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning sign	Signal word	Explanation
	Danger!	Imminent danger to life or risk of severe personal injury
	Danger!	Risk of death from electric shock
	Warning!	Risk of minor personal injury
	Caution!	Risk of material or environmental damage

2.1.2 Structure of warnings

Warning signs are identified by an upper and lower separating line and are laid out according to the following basic principle:

	Signal word! Type and source of danger! Explanation of the type and source of danger. > Measures for averting the danger
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2.2 Intended use

Vaillant cylinders are constructed using state-of-the-art technology in accordance with recognised safety regulations.

Nevertheless, there is still a risk of injury or danger of death to the operator or others or of damage to the unit and other property in the event of improper use or use for which the unit is not intended.

Vaillant cylinders are not intended for use by persons (including children) with physical, sensory or mental impairments or who have inadequate experience and/or knowledge, unless they are supervised by a person responsible for their safety or have been given instructions by this person regarding the operation of the unit. Children must be supervised to ensure that they do not play with the unit.

Vaillant uniSTOR VIH GB120/2 S, VIH GB155/2 S, VIH GB180/2 S, VIH GB210/2 S, VIH GB260/2 S, and VIH GB310/2 S domestic hot water cylinders are unvented, indirectly heated domestic hot water cylinders designed for use with gas-fired wall-hung boilers as per GB standards for hot water supply systems. The cylinders work with the pressure of the water supply line and do not need a cold water tank for their supply.

They are exclusively for the provision of hot potable water to a temperature of 80°C and must be used only for this purpose. The cylinders can be used in combination with a downstream gas-fired wall-hung boiler for hot water production in accordance with GB standards. Any other use that is not specified in these instructions, or use beyond that specified in this document shall be considered improper use.

Any direct commercial or industrial use is also deemed to be improper. The manufacturer or supplier is not liable for any damage resulting from such use. The user alone bears the risk.

Intended use includes the following:

- observance of accompanying operating, installation and servicing instructions for Vaillant products as well as for other parts of components of the system
- compliance with all inspection and maintenance
- conditions listed in the instructions.

Improper use of any kind is prohibited!

2.3 Basic safety instructions

Installation, commissioning, and maintenance

Installation and adjustment as well as service, maintenance and repair must be carried out by a competent person approved at the time by the Health and Safety Executive and be in accordance with the relevant requirements of the Local Authority, Building Regulations, Building Regulations (Scotland), Building Regulations (Northern Ireland), and the bye-laws of the local Water Undertaking.

Cylinder safety information

This product has been assessed and found to comply with the requirements of the Building Regulations for unvented hot water storage systems and must not be altered or modified in any way.

- In the event of parts replacement, use only genuine spare parts supplied by Vaillant Ltd.
- You must also observe the guidelines of the local water utility companies.

If the water does not meet the requirements of The Water Supply (Water Quality) Regulations 2000 (Amendment) Regulations 2007, corrosion damage may occur to the cylinder.

- Only use the cylinder to heat potable water.

Preventing frost damage

You should not turn the gas-fired wall-hung boiler off completely so that you can still use all of the safety functions for your heating system. If you want to take the unit out of operation for a relatively long period of time in an unheated room at risk of frost, you must completely drain the cylinder.

Avoiding damage caused by leaks

If there are leaks in the pipework, close off the cold water stop valve on the safety assembly and notify a competent person so that they can rectify the leaks.

Preventing damage due to unauthorised changes to the unit

Changes to the supply lines, relief valve termination, and expansion relief valve may only be carried out by a competent person!

- The installed safety devices must always be used.

Avoiding damage resulting from the closing of the expansion relief valve

Never shut off the expansion relief valve or relief valve termination.

3 Description of the unit

3 Description of the unit

The Vaillant uniSTOR domestic hot water cylinder is available in six sizes: 120, 155, 180, 210, 260 or 310 litres and meets the requirements of EN 12897:2006. The cylinder is made from stainless steel and is insulated with EPS with heat radiation absorbers.

The unvented domestic hot water cylinder works with the pressure of the water supply line and does not need a cold water tank for its supply. To enable the cylinder to work as well as possible, a cold water supply with an appropriate pressure and flow rate is required.

3.1.1 Safety devices

The cylinder is delivered with all safety and control devices for the operation of the unvented domestic hot water supply system:

- Temperature/pressure relief valve (90 °C, 7 bar)
- Pressure reducing valve (3.5 bar) with line strainer
- Expansion relief valve (one-way valve, 6.0 bar)
- Thermal cut-out for electric immersion heater
- Primary heating circuit thermal cut-out.

3.1.2 Hot water temperature regulation

If you are using a Vaillant dual-channel eBUS controller, you can use this controller to adjust the hot water temperature and the reheating times.

Other controllers may be used depending on your heating system, such as a 230 V timer in conjunction with the 230 V cylinder thermostat that is fitted.

Observe the operating instructions for the installed controller or timer.

Electric immersion heater

The cylinder is equipped with an additional electric immersion heater with a heating output of 3 kW.

The electric immersion heater is designed for use in unvented cylinders and has a thermostat with a temperature controller and a thermal cut-out (TCO) with a reset button.

3.1.3 Functional elements of cylinder

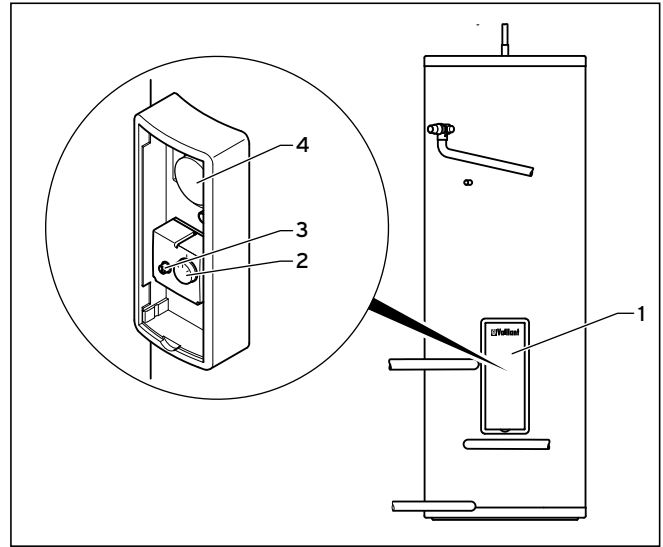


Fig. 3.1 Functional elements of cylinder

Key

- 1 Front cladding
- 2 Cylinder thermostat
- 3 Thermal cut-out
- 4 Electric immersion heater

The following are premounted at the factory for the uniSTOR domestic hot water cylinder:

- Cylinder thermostat (4) and primary heating circuit thermal cut-out (3)
- Electric immersion heater (2) with thermal cut-out and cylinder thermostat

4 Operation



Danger! **Risk of scalding and bursts due to inappropriate alterations!**

There is a risk of escaping steam, bursting, and damage to the system if you make any changes to the cylinder, control system, supply lines for water and power (if present), relief valve termination, or expansion relief valve for the cylinder water.

- Do not make any improper changes.



Warning! **Risk of scalding**

The output temperature of the draw-off points can reach 85 °C if the mixing valve is set incorrectly.

- Do not adjust the mixing valve.
- If the output temperature at the draw-off point is too high or low, contact a competent person to set the output temperature.



Caution! **Risk of damage from leaks!**

Leaks in the water pipes between the cylinder and tap can result in water damage.

- If a leak occurs, close the cold water stop valve on the cylinder.
- Contact a competent person to eliminate the leak.

The cold water stop valve is located in the pipe connection of your domestic water connection for the cylinder (cold water connection) which should have been fitted by your installer in an accessible position close to the cylinder.

4.1 Setting the hot water temperature

The hot water temperature is set to the required value by the competent person during cylinder commissioning.

If an external controller is installed for hot water temperature control, you can set the hot water temperature and primary heating times using this controller.

For information on making settings, see the operating instructions for the controller

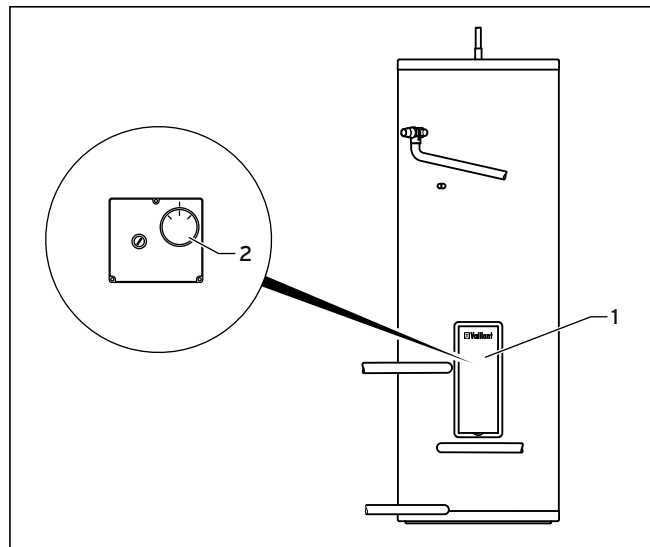


Fig. 4.1 Setting the cylinder thermostat

Key

- 1 Front cladding
- 2 Cylinder thermostat

If no controller for hot water temperature control is installed, you can set the required hot water temperature on the cylinder thermostat (2). You can set the reheating times on the installed timer. Observe the operating instructions for the timer.

- Remove the front cladding (1) from the cylinder.
 - Set the desired cylinder hot water temperature on the cylinder thermostat (2).
 - Mount the upper front cladding on the cylinder.
- In order to avoid calcification, the temperature should be set to a maximum of 60 °C.
- Use the operating instructions for the gas-fired wall-hung boiler to make sure that the unit is ready for operation.



If you are heating up water for the first time or after a long switch-off period, the full cylinder performance is only available following a waiting period.

4 Operation



If the uniSTOR has been installed in a cupboard used for airing clothes, make sure that clothing and other objects are not placed on the cylinder, control devices, pipes or other system components.



Always make sure that there is clear access to the cylinder to enable the use of the hot water thermostat controller and the thermostat mixer.

4.2 Using the electric immersion heater

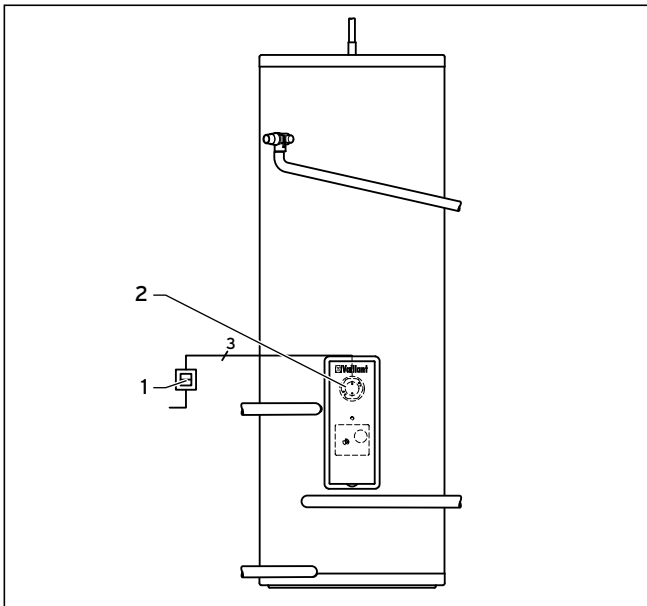


Fig. 4.2 Using the electric immersion heater

Key

- 1 Switch
- 2 Electric immersion heater

The electric immersion heater (2) should only heat the water if the gas-fired wall-hung boiler fails. The electric immersion heater may not be operated at the same time as the gas-fired wall-hung boiler.

- If the gas-fired wall-hung boiler fails, switch the electric immersion heater on using the switch (1).
- Once the gas-fired wall-hung boiler is in service again, use the switch to switch the electric immersion heater off.

4.3 Switching off hot water production

- Switch off the gas-fired wall-hung boiler (see operating instructions for the gas-fired wall-hung boiler) to temporarily switch off the heating and hot water system.

4.4 Frost protection



Caution!

Risk of damage due to frost!

If the cylinder is placed out of operation for a relatively long period of time in an unheated room (e.g. during a winter holiday), the cylinder must be completely drained.

- Contact a competent person to drain the cylinder.

If you are absent during a relatively long period when there is a risk of frost, make sure that you leave the central heating on and that the temperature in the cylinder room and in all other rooms is kept above freezing.

4.5 Cleaning the cylinder

- Clean the outside of the cylinder only with a damp cloth, using soapy water if it is especially dirty. Do not use abrasive cleaning agents or solvents (any type of scouring agent, petroleum etc.) since they can damage the cladding and the cylinder fixtures.

4.6 Temporarily taking the cylinder out of service



Caution!

Risk of damage as a result of the cylinder freezing!

Frost protection and monitoring devices are only active while the boiler is connected up to the power supply.

- Make sure that the cylinder cannot be damaged if there is a frost.

- Temporarily take the cylinder out of service by switching the boiler off.

4.7 Energy-saving tips

Appropriate hot water temperature

The warm water should only be heated up to the extent that is necessary for use. Any further heating results in unnecessary power consumption and hot water temperatures of more than 60 °C also lead to increased lime scale production.

Run circulation pumps only if needed

Circulation pumps do indeed increase convenience when it comes to hot water production. But they also need power. And circulating hot water that is not used cools off when passing through pipes and then needs to be reheated. Therefore, circulation pumps are to be operated only when hot water is actually needed for the household. Individual timer programs can be set using autotimers which are already installed or can be retrofitted in most circulation pumps. Weather compensators often have ancillary functions for controlling circulation pump timings. Consult your heating specialist company.

4.8 Fault finding

What do I do if ...

Fault	Remedy
... fluid is dripping from the system?	If possible, collect the fluid in a bucket and inform a competent person.
... the controller issues a message telling me the sensor is faulty or there is a cable break?	Inform a competent person.
... the cylinder is not providing sufficient hot water?	Check that the hot water temperature is set correctly on the controller (→ section 4.1 , recommended value of approx. 45 °C) and that the gas-fired wall-hung boiler is working. If the settings are correct, the cylinder may be calcified. Then: Inform a competent person.
... a thermal cut-out trips?	Inform a competent person.
... water flows from the expansion relief valve?	Inform a competent person.

Tab. 4.1 Troubleshooting by the operator

5 Inspection and maintenance

6 Recycling and disposal

5 Inspection and maintenance

An annual inspection/maintenance carried out by a competent person is a prerequisite for ensuring that the cylinder is permanently ready for operation, reliable, and has a long working life.

It is important that your hot water cylinder is serviced annually.

We recommend entering into a maintenance agreement.



Danger!

Risk of death from electric shock!

Improperly executed work on the cylinder can result in a risk to life and limb.

- Never try to rectify cylinder faults yourself.
- Contact a competent person to rectify all faults.



Danger!

Risk of injury resulting from improper maintenance or repair.

Failure to arrange for the system to be maintained and repaired and improper maintenance and repair can impair the operational safety of the unit, leading to personal injury and material damage.

- Never attempt to perform maintenance work or repairs on the cylinder yourself.
- Always employ a competent person.

Servicing

After servicing, the servicing engineer must complete the relevant Service Interval Record section of the Benchmark Checklist located on the inside back pages of this document.

6 Recycling and disposal

Both the Vaillant cylinder and its transport packaging consist mainly of recyclable raw materials.

6.1 Disposal of unit

You must not dispose of your Vaillant cylinder or any of its accessories in normal domestic rubbish. Make sure that the old unit and any accessories are disposed of properly.

6.2 Disposal of packaging

Arrange for the competent person who installed the unit to dispose of the transport packaging.

7 Customer service and manufacturer's guarantee

7.1 Vaillant service

To ensure regular servicing, it is strongly recommended that arrangements are made for a Maintenance Agreement. Please contact Vaillant Service Solutions (0870 6060 777) for further details.

7.2 Vaillant guarantee

Vaillant provides a full parts and labour guarantee for this appliance for the duration as shown on the enclosed registration card which must be fully completed and returned within 30 days of installation. All appliances must be installed by a suitably competent person fully conversant and in accordance with all current regulations applicable to the appliance type installation. In the case of gas appliances the Gas Safety (Installation and Use) Regulations 1998, and the manufacturer's instructions. In the UK competent persons approved at the time by the Health and Safety Executive undertake the work in compliance with safe and satisfactory standards.

Installers should also be fully conversant with and competent with all necessary electrical and building regulations that may apply to the installation.

In addition all unvented domestic hot water cylinders must be installed by a competent person to the prevailing building regulations at the time of installation (G3). All appliances shall be fully commissioned in accordance with our installation manual and Benchmark commissioning check list (this will be included within the installation manual). These must be signed and given to the user for safe keeping during the hand over process. Installers should also at this time advise the user of the annual servicing requirements and advise of appropriate service agreement.

Terms and conditions do apply to the guarantee, details of which can be found on the registration card included with this appliance. In order to qualify for guarantee after one year the appliance must be serviced in accordance with our installation manual servicing instructions. The benchmark service history should be completed.

Note - all costs associated with this service are excluded from this guarantee.

Failure to install and commission this appliance in compliance with the manufacturer's instructions will invalidate the guarantee (this does not affect the customer's statutory rights).

8 Technical data

8 Technical data

	Unit	VIH GB 120/2 S	VIH GB 155/2 S	VIH GB 180/2 S	VIH GB 210/2 S	VIH GB 260/2 S	VIH GB 310/2 S
Total capacity	litres	120	155	180	210	260	310
Actual capacity	litres	119,2	149,1	176,6	211,2	250,3	298,5
Hot water capacity	litres	104,0	136,7	166,4	203,9	247,5	270,5
Maximum supply pressure to pressure reducing valve	MPa (bar)	1,2 (12)					
Rated pressure of cylinder	MPa (bar)	0,7 (7)					
Maximum operating pressure of heating coil	MPa (bar)	0,35 (3,5)					
Operating pressure	MPa (bar)	0,35 (3,5)					
Pressure reducing valve	MPa (bar)	0,35 (3,5)					
Expansion relief valve	MPa (bar)	0,6 (6)					
Temperature and pressure relief valve	°C, MPa (bar)	90, 0,7 (7)					
Charge pressure of hot water expansion vessel	MPa (bar)	0,4 (4)					
Maximum temperature of heating circuit	°C	85					
Maximum temperature of potable hot water	°C	85					
Standing heat loss	kW/24 h	1,26	1,53	1,66	1,89	2,07	2,26
Heat up time according to EN 12897	mins	18	23	24	28	35	42
Recovery time (70% capacity)	mins	16	18	17	20	25	30
Primary heat exchanger performance	kW	18,6	18,8	22,0	22,6	22,3	20,4
Flow rate for primary heat exchanger performance	l/min	23,3					
Primary heat exchanger pressure drop	mbar	97	97	116	116	116	115
Primary heat exchanger volume	litres	2,94	2,94	3,56	3,56	3,56	3,56
Primary heat exchanger surface area	m²	0,62	0,62	0,75	0,75	0,75	0,75
Dimensions							
Height	mm	1001	1191	1371	1593	1843	2153
Height with hot water draw off	mm	1033	1223	1403	1625	1875	2185
Topple measure	mm	1138	1308	1473	1680	1918	2217
Diameter	mm	554,5					
Depth	mm	633					
Net weight	kg	26	29	32	36	41	46
Weight (full)	kg	145	177,8	209	248	291	345
Connections							
Cold water inlet		22 mm unprofiled pipe (crimp joints)					
Hot water draw off		22 mm unprofiled pipe (crimp joints)					
Pressure-controlled cold water inlet		22 mm unprofiled pipe (crimp joints)					
Secondary return		15 mm unprofiled pipe (crimp joints)					
Primary heater flow		22 mm unprofiled pipe (crimp joints)					
Primary heater return		22 mm unprofiled pipe (crimp joints)					
Primary heating circuit immersion sleeve size	mm	8					
Electrical connections							
Immersion heater (according to ENBS 60335)		2.7 kW, 230 V, 50 Hz					
Length of immersion heater	inch	14					
Two port motorised valve		230/240 V, 50 Hz					
Cylinder thermostat		230/240 V, 50 Hz					
Material data							
Cylinder body material		Stainless steel (1.4521)					
Cylinder jacket material		Polypropylene					
Insulation material		EPS with heat radiation absorber					
Insulation thickness	mm	50					
Corrosion protection		Stainless steel					
Blowing agent for insulation material		Pentane (GWP < 5)					
ODP		0					

Tab. 3.1 Technical data for uniSTOR domestic hot water cylinder



The heat up time is based on a flow rate of 1400 l/h at 80 °C.
Temperature rise from 15 °C to 60 °C.

Supplier

Vaillant Ltd

Nottingham Road ■ Belper ■ Derbyshire ■ DE56 1JT

Telephone 0845 602 2922 ■ www.vaillant.co.uk ■ info@vaillant.co.uk

Manufacturer

Vaillant GmbH

Berghauser Str. 40 ■ D-42859 Remscheid ■ Telefon 0 21 91/18-0

Telefax 0 21 91/18-28 10 ■ www.vaillant.de ■ info@vaillant.de